UNIVERSITY of NICOSIA

| Course Code | Course Title | ECTS Credits |
|---|---|---|
| CVEE-211 | Probability and Statistics for Engineers | 6 |
| **Department** | **Semester** | **Prerequisites** |
| Engineering | Fall, Spring | MATH-191 |
| **Type of Course** | **Field** | **Language of Instruction** |
| Required | Civil & Environmental Engineering | English |
| **Level of Course** | **Year of Study** | **Lecturer(s)** |
| 1st Cycle | 2nd | Prof. Anastasis Polycarpou |
| **Mode of Delivery** | **Work Placement** | **Co-requisite** |
| Face-to-face | N/A | None |

**Objectives of the Course:**

The main objectives of the course are to:

- Familiarize students with the fundamental concepts of probability and statistics.
- develop an understanding of the role of statistics with emphasis on engineering applications.
- Provide an understanding of the processes by which real-life statistical engineering and science problems are analyzed.
- Acquaint students with computer-based statistical analysis.

**Learning Outcomes:**

After completion of the course students are expected to be able to:

- Acquire knowledge on statistics and probability theory with emphasis on science and engineering problems.
- Develop designs and conduct experiments.
- Analyze, and evaluate statistical data using a computer software.
- Employ techniques, skills, and the modern engineering tools necessary for engineering practice.

**Course Contents:**

- Descriptive Statistics
- Probability Theory (Probability, Discrete and Continuous Random Variables and Probability Distributions)
- Joint Probability Distributions and Random Samples
- Point Estimation
- Statistical Intervals and Hypothesis Testing (one and two samples)
- ANOVA

**Learning Activities and Teaching Methods:**

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| Lectures, examples, discussion |

**Assessment Methods:**

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| Homework, computer projects, mid-term exam, final exam. |

**Required Textbooks/Reading:**

| Authors | Title | Publisher | Year | ISBN |
|---|---|---|---|---|
| Jay L. Devore | Probability and Statistics for Engineering and the Sciences | Duxbury Press | 2011 | 978-0538733526 |

**Recommended Textbooks/Reading:**

| Authors | Title | Publisher | Year | ISBN |
|---|---|---|---|---|
| Richard L. Scheaffer, Madhuri Mulekar and James T. McClave | Probability and Statistics for Engineers | Cengage Learning | 2010 | 978-0534403027 |